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IS 8029 (1985): Quinalphos Dusting Powders [FAD 1:
Pesticides and Pesticides Residue Analysis]



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SPECIFICATION FOR
QUINALPHOS DUSTING POWDERS
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Indian Standard

SPECIFICATION FOR QUINALPHOS DUSTING POWDERS

(*First Revision*)

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AMENDMENT NO. 1 OCTOBER 1987

TO

IS:8029-1985 SPECIFICATION FOR QUINALPHOS
DUSTING POWDERS

(First Revision)

(Page 6, clauses 5.2 and 5.2.1) - Substitute the following for the existing clauses:

'5.2 For determination of quinalphos content by GIC method, start with 25 g of material and extract in Soxhlet apparatus using acetone/toluene for 6-7 h, taking care to ensure that extraction is complete. Recover solvent as much as possible. Transfer to 50-ml volumetric flask. Add 10 ml of internal standard and make up to volume with acetone/toluene and proceed.'

(Page 6, clause 5.2.2) - Substitute the following for the existing clause:

'5.2.2 For determination of quinalphos content by volumetric method treat sample as given in 5.2 but omit addition of internal standard while making up the volume:

$$\text{Quinalphos content, percent by mass} = \frac{\underline{v}}{\underline{m}} \times 2.867$$

where

\underline{v} = volume, in ml, of standard sodium hydroxide solution consumed; and

\underline{m} = mass, in g, of sample taken for the test.'

(AFCD 6)

AMENDMENT NO. 2 MAY 1994
TO
IS 8029 : 1985 SPECIFICATION FOR QUINALPHOS
DUSTING POWDERS

(First Revision)

(Page 6, clause 4.1) — Substitute the following for the existing

‘When freshly manufactured material in bulk quantity is offered for inspection, representative samples of the material shall be drawn and tested as prescribed in IS 10627 : 1983 within 90 days of its manufacture. When the material is offered for inspection after 90 days of its manufacture, sampling shall be done as prescribed in IS 10627 : 1983. However, the criteria for conformity of the material when tested, shall be the limits of tolerances, as applicable over the declared nominal value and given under clause 2.3 of the standard’

(FAD 1)

Indian Standard
SPECIFICATION FOR
QUINALPHOS DUSTING POWDERS
(First Revision)

0. FOREWORD

0.1 This Indian Standard (First Revision) was adopted by the Indian Standards Institution on 31 January 1985, after the draft finalized by the Pest Control Sectional Committee had been approved by the Agricultural and Food Products Division Council and the Chemical Division Council

0.2 Quinalphos dusting powder formulations are used in the control of insect pests of agricultural crops

0.3 Quinalphos dusting powder formulation is generally manufactured to contain 5 percent (*m/m*) of quinalphos

0.4 This standard was first published in 1976 It is being revised to incorporate latest packing and marking clauses Opportunity has been taken to give reference to IS 6940-1982* for the sake of uniformity

0.5 In the preparation of this standard, due consideration has been given to the provisions of the *Insecticides Act, 1968* and the Rules framed there-under However, this standard is subject to the restrictions imposed under these, wherever applicable

0.6 For the purpose of deciding whether a particular requirement of this standard is complied with, the final value observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2-1960† The number of significant places retained in rounded off value should be the same as that of the specified value in this standard

1. SCOPE

1.1 This standard prescribes the requirements and them ethods of sampling and test for quinalphos dusting powders.

*Methods of test for pesticides and their formulations (*first revision*)

†Rules for rounding off numerical values (*revised*)

2. REQUIREMENT

2.1 Description The material shall be in the form of homogeneous powder. It shall be free-flowing and devoid of lumps. Quinalphos technical used in its manufacture shall have been uniformly mixed in suitable fillers, such as talc or pyrophyllite. The material, when dusted from hand rotary duster, shall issue freely without clogging or bridging.

2.1.1 Quinalphos technical employed in the manufacture of dusting powder formulations shall conform to IS 8072-1984*.

2.2 The material shall also comply with requirements given in Table 1.

TABLE 1 REQUIREMENTS FOR QUINALPHOS DUSTING POWDERS

Sl. No.	Characteristic	Requirement	Method of Test, Ref. to	
			Appendix of IS 8072-1984*	Cl No. or IS 6940-1982†
(1)	(2)	(3)	(4)	(5)
i)	Quinalphos content, percent by mass	Nominal value as declared on the container (see 2.3)	A	—
ii)	Sieving requirement, material passing through 75 micron IS Sieve ‡ percent by mass, <i>Min</i>	90	—	12.1
iii)	Bulk density after compacting	Not to exceed the value obtained before compacting by more than 60 percent	—	12.2
iv)	Acidity (as H_2SO_4), percent by mass, <i>Max</i>	0.25	—	11.3
	OR			
	Alkalinity (as NaOH), percent by mass, <i>Max</i>	0.01	—	11.3

*Specification for quinalphos, technical (*first revision*)

†Methods of test for pesticides and their formulations (*first revision*)

‡See IS 460 (Part 1)-1978 Specification for test sieves: Part 1 Wire cloth test sieves (*second revision*). BS Sieve 200, Tyler Sieve 200 have apertures within the limits specified and may, therefore, be used as 75-micron IS Sieve

*Specification for quinalphos, technical (*first revision*)

2.3 Quinalphos Content — When determined by the method prescribed in Appendix A of IS: 8072-1984*, the observed quinalphos content, percent by mass of any of the samples shall not differ from the declared nominal value by more than the percent tolerance as indicated below:

Nominal Value, Percent	Tolerance, Percent	
Up to 9	+ 10	} of the nominal value
	- 5	
Above 9 and below 50	± 5	
	+ 5	
50 and above	- 3	

2.3.1 The actual value of the quinalphos content in formulation shall be calculated to the second decimal place and then rounded off to first decimal place before applying the tolerances as stipulated in 2.3.

2.3.1.1 The average content of all samples taken shall not be lower than the nominal value.

3. PACKING AND MARKING

3.1 Packing — The material shall be packed as per requirements given in IS : 8190 (Part 1)-1980†.

3.2 Marking — The containers shall bear legibly and indelibly the following information and any other additional information as required under the *Insecticides Act* and Rules:

- Name of the material;
- Name of the manufacturer;
- Batch number;
- Date of manufacture;
- Net mass of contents;
- Nominal quinalphos content, percent (*m/m*); and
- A minimum cautionary notice as worded in the *Insecticides Act* and Rules.

3.2.1 The product may also be marked with Standard mark.

3.3 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

... certified by ISI for conformity to that standard as a further safeguard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

*Specification for quinalphos, technical (*first revision*).

†Requirements for packing of pesticides: Part 1 Solid pesticides (*first revision*).

4. SAMPLING

4.1 Representative samples of the material shall be drawn as prescribed in IS : 10627-1983*.

5. TESTS

5.1 Tests shall be carried out by the methods as specified in col 4 and 5 of Table 1.

5.2 For determination of quinalphos content in the dusting powder formulations by the spectro-photometric method, prepare sample solution by accurately weighing a sufficient amount of the sample in a paper thimble to contain approximately 250 mg of quinalphos and extract in a Soxhlet apparatus with benzene for 6-7 hours, taking care to ensure that the extraction is complete. Recover as much of the solvent as possible in the Soxhlet, approximately 5 ml should remain and make up the remaining extract to 25 ml with benzene in a 25-ml volumetric flask. Shake. Transfer 10 μ l of the solution obtained, in duplicate, at the two starting points of the chromatographic paper. At the third starting point transfer similarly 10 μ l solution of quinalphos, technical of known purity, containing approximately 250 mg active ingredient in 25 ml benzene solution.

5.2.1 Calculate quinalphos content as given below:

$$\text{Quinalphos content, percent by mass} = 9.62 \times \frac{P}{M}$$

where

P = phosphorus in sample read from the calibration curve; and

M = mass, in g, of sample taken for tests.

5.2.2 For determining quinalphos content by the volumetric method treat sample as for spectrophotometric analysis. Calculate quinalphos content by the following equation:

$$\text{Quinalphos content, percent by mass} = \frac{v}{m} \times 2.867$$

where

v = volume, in ml, of standard sodium hydroxide solution consumed; and

m = mass, in g, of sample taken for the test.

5.3 **Quality of Reagents** — Unless specified otherwise, pure chemicals and distilled water (see IS : 1070-1977†) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

*Methods for sampling of pesticidal formulations.

†Specification for water for general laboratory use (second revision).

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